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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/067,658	02/04/2002	Heather N. Bean	10018569-1	6946

22879 7590 04/13/2006

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EXAMINER	
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ART UNIT	**PAPER NUMBER**
2622	

DATE MAILED: 04/13/2006

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/067,658
Filing Date: February 04, 2002
Appellant(s): BEAN ET AL.

William O'Meara
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 2/8/2006 appealing from the Office action mailed 10/19/2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,614,477	Lee et al.	11-1998
6,630,950	Ohkawara et al.	3-1999
6,710,809	Niikawa	2-2000
6,795,642	Matsumoto et al.	7-2001
6,856,345	Yamamoto et al.	6-2000
6628336	Hamamura	6-1997

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al. US 6,614,477.

Re claim 1, Lee discloses in figures 2-6 a camera system capable of capturing video images at different frame rates. The camera system includes video capture selector (55) having a first operating state in which the camera captures image data at a first rate and a second operating state in which the camera captures image data at a second rate different from the first rate (col. 4, line 9 – col. 5, line 45). It can be seen in figure 2 (block 21) that a frame rate is commanded by a user and then continuous image capture operations are carried out (col. 3, line 25-col. 4, line 9). A frame rate selection signal (SEL) is generated from by user-controlled external switch in order to command a selection of frame rates (col. 5, lines 36-45). Since the frame rate selection signal (SEL) is generated by a user-controlled switch and Lee does not disclose that the switch is disabled at any time, it is inherent that the user may actuate the switch in order to vary the frame rate at any time. Therefore, after a user commands a frame rate and continuous image capture is started, the user-controlled switch may be pressed at any

time after the initial actuation in order to vary the frame rate during continuous image capture.

Re claim 13, see claim 1. Lee discloses in figures 2-6 a camera system capable of capturing video images at different frame rates. The camera system includes CCD (42) for image capture. Lee discloses in figure 3 a timing diagram for image data generation. Lee states that gate signals are applied to the image capture device for every other field (310) responsive to a command frame rate that can be varied according to a signal applied by a variable frame rate image capture controller (55) (col. 3, lines 49-64). The video capture selector (55) has a first operating state in which the camera captures image data at a first rate and a second operating state in which the camera captures image data at a second rate different from the first rate (col. 4, line 9 – col. 5, line 45). The selector (55) is switchable between the first and second states during continuous image capture and the the frame rate selection signal (SEL) may be produced from a user-controlled external switch (col. 5, lines 36-44). Therefore, it can be seen that according to the gate signals applied to a succession of fields (310) the camera system provides a method of creating video of an object comprising: imaging an object on a photodetector array; in response to a first user input applied to a variable-frame-rate-trigger (user-controlled switch controlling SEL) : generating a first image data set representative of said object; then waiting a first period of time (time between gate enable signals), then generating a second image data set representative of the object; in response to a second user input applied to said variable-frame-rate-trigger, wherein

said second user input is different than said first user input (commanded frame rate is changed); generating a third image data set representative of said object (corresponding to the different commanded frame rate); then waiting a second period of time (time between gate enable signals at different commanded frame rate), then generating a fourth image data set representative of the object, wherein said second period of time is different than said first period of time (gate signals vary for varied frame rates (col. 3, lines 35-42); streaming said first image data set, said second image data set, said third image data set, and said fourth image data set (digital camera processor (45) processes the digital video signals at the selected frame rate and generates composite video for output (col. 4, lines 9-31)).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. in view of Hamamura US 6,628,336.

Re claim 18, Lee discloses in figures 2-6 a camera system capable of capturing video images at different frame rates. The camera system includes video capture selector (55) having a first operating state in which the camera captures image data at a first rate and a second operating state in which the camera captures image data at a second rate different from the first rate (col. 4, line 9 – col. 5, line 45). It can be seen in figure 2 (block 21) that a frame rate is commanded by a user and then continuous image capture operations are carried out (col. 3, line 25-col. 4, line 9). A frame rate selection signal (SEL) is generated from by user-controlled external switch in order to command a selection of frame rates (col. 5, lines 36-45). Thus, the camera is caused to initiate image data acquisition by actuating a switch (external switch for producing SEL signal) and the camera varies the frame rate by selectively operating the user-controlled switch. Although the Lee reference discloses the above limitations, it fails to distinctly state that the user-controlled switch is located on the exterior of the camera.

Hamamura discloses in figures 1-2 an electronic camera (1). The camera (1) includes a continuous mode switch (13) that is used to set photography of either one frame or a plurality of frames continuously (col. 5, line 66 - col. 6, line 5). Hamamura states that when the indicator of continuous mode switch (13) is switched to the position printed with "L", and the release switch (10) is pressed, photography at a rate of eight frames per second is performed; and when the indicator of continuous mode switch (13) is switched to the position printed with "H", and the release switch (10) is pressed, photography at a rate of thirty frames per second is performed (col. 6, lines 6-15). Furthermore, it can be seen in figures 1-2 that the continuous mode switch (13) and the

release switch (10) for controlling the frame rate are provided on the exterior surface of the camera (1). Therefore, it would have been obvious for one skilled in the art to have been motivated to place the user-controlled switch for varying frame rate as disclosed by Lee on the exterior surface of a camera as disclosed by Hamamura so that the switch may be easily accessed by a user of the camera.

Re claim 19, the camera system disclosed by Lee includes video capture selector (55) having a first operating state in which the camera captures image data at a first rate and a second operating state in which the camera captures image data at a second rate different from the first rate (col. 4, line 9 – col. 5, line 45). It can be seen in figure 2 (block 21) that a frame rate is commanded by a user and then continuous image capture operations are carried out (col. 3, line 25-col. 4, line 9). A frame rate selection signal (SEL) is generated from by user-controlled external switch in order to command a selection of frame rates (col. 5, lines 36-45). Since the frame rate selection signal (SEL) is generated by a user-controlled switch and Lee does not disclose that the switch is disabled at any time, it is inherent that the user may actuate the switch in order to vary the frame rate at any time. Therefore, after a user commands a frame rate and continuous image capture is started, the user-controlled switch may be pressed at any time after the initial actuation in order to vary the frame rate while the camera is acquiring image data.

Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. in view of Ohkawara et al. US 6,630,950.

Re claims 2-5, Lee discloses all of the limitations of claim 1 above. However, Lee only mentions that the frame rate selection signal (SEL) may be produced from a user-controlled external switch but does not further detail the switch.

Ohkawara discloses in figure 7 a camera including a rotary zoom switch. The rotary zoom switch (148) produces a signal based on a resistance that changes in accordance with the pressure exerted on the switch (col. 11, lins 1-12). Thus, the switch is progressively actuatable according to the force exerted on the switch. Therefore, it would have been obvious for one skilled in the art to have been motivated to include a switch with a resistance that varies in accordance with pressure exerted as disclosed by Ohkawara in the camera system disclosed by Lee. Doing so would provide a means for providing a switch that outputs a signal based on the pressure exerted on the switch (Ohkawara: col. 11, lines 1-12).

Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. in view of Niikawa US 6,710,809.

Re claims 6-7, Lee discloses all of the limitations of claim 1 above. However, Lee does not distinctly state that the camera system includes a feedback (visual notification) of selection of the first rate and second rate.

Niikawa discloses in figures 10A-10D, a sub-display (100) of a camera. The sub-display (100) provides feedback (visual notification) of selection of processes (S103-S106) (col. 12, lines 37-54). Therefore, it would have been obvious for one skilled in the art to have been motivated to include a visual notification of selection of camera processes as disclosed by Niikawa in the camera system including a frame rate selector disclosed by Lee. Doing so would provide a means for updating a display so that current settings selected by a user are displayed in order to inform a user of the current settings (Niikawa: col. 12, lines 37-54).

Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. in view of Matsumoto et al. US 6,795,642.

Re claims 14-15 Lee discloses in figures 2-6 a camera system capable of capturing video images at different frame rates. The camera system includes video capture selector (55) having a first operating state in which the camera captures image data at a first rate and a second operating state in which the camera captures image data at a second rate different from the first rate (col. 4, line 9 – col. 5, line 45). The selector (55) is switchable between the first and second states during continuous image capture and the the frame rate selection signal (SEL) may be produced from a user-controlled external switch (col. 5, lines 36-44). Lee also states that a digital camera processor (45) processes the digital video signals at the selected frame rate and generates composite video for output (col. 4, lines 9-31). Although the Lee reference

discloses the above limitations it fails to distinctly state that the first and second pluralities of images at first and second frame rates are stored.

Matsumoto discloses in figure 1 a video recording apparatus (2). The video recording apparatus (2) is capable of storing variable frame rate video image signals (col. 3, lines 34-67). Therefore, it would have been obvious for one skilled in the art to have been motivated to include a means for storing video images signals of varying frame rates as disclosed by Matsumoto in the camera system disclosed by Lee. Doing so would provide a means for storing video signals that have different frame rates.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. in view of Matsumoto et al. and further in view of Niikawa.

Re claim 16, Lee in view of Matsumoto discloses all of the limitations of claim 15 above. However, the combination does not distinctly state that the camera system includes a feedback (visual notification) of selection of the first rate and second rate. Niikawa discloses in figures 10A-10D, a sub-display (100) of a camera. The sub-display (100) provides feedback (visual notification) of selection of processes (S103-S106) (col. 12, lines 37-54). Therefore, it would have been obvious for one skilled in the art to have been motivated to include a visual notification of selection of camera processes as disclosed by Niikawa in the camera system including a frame rate selector disclosed by Lee in view of Matsumoto. Doing so would provide a means for updating a display so

that current settings selected by a user are displayed in order to inform a user of the current settings (Niikawa: col. 12, lines 37-54).

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. in view of Hamamura and further in view of Yamamoto et al. US 6,856,345.

Re claim 20, Lee in view of Hamamura discloses all of the limitations of claim 18 above. However, Lee merely discloses a user-controlled external switch for commanding a frame rate and subsequently capturing frames at the commanded frame rate. Lee does not specifically state that the user-controlled switch for commanding a frame rate is also a shutter switch capable of starting and stopping an image capturing process (the camera stops image data acquisition by discontinuing actuation of the switch).

Yamamoto discloses in figures 1-5 a camera including a shutter switch (7) that is capable of starting and stopping an image capturing operation when the switch (7) is half-pressed and starting a printing operation when the switch (7) is full-pressed (col. 3, lines 29-51). The camera disables the image capturing operation when the switch (S1) is not on (by discontinuing actuation of the switch 7) (col. 10, lines 15-42). Yamamoto teaches that a shutter button (7) can be used to start an stop an image capture operation and also to perform other camera operations (eg. Printing) according to a half-press and a full-press operation of the shutter button (7). Therefore, it would have been

obvious for one skilled in the art to have been motivated to command a frame rate of a camera as disclosed by Lee in view of Hamamura using a shutter button that is capable of starting and stopping image capture as well as performing other camera operations as disclosed by Yamamoto. Doing so would provide a means for reducing the number of buttons required to control camera operations and thus providing a more user-friendly camera.

Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. in view of Hamamura and further in view of Ohkawara et al. US 6,630,950.

Re claims 21-22, Lee in view of Hamamura discloses all of the limitations of claim 18 above. However, Lee only mentions that the frame rate selection signal (SEL) may be produced from a user-controlled external switch but does not further detail the switch.

Ohkawara discloses in figure 7 a camera including a rotary zoom switch. The rotary zoom switch (148) produces a signal based on a resistance that changes in accordance with the pressure exerted on the switch (col. 11, lins 1-12). Thus, the switch is progressively actuatable according to the force exerted on the switch. Therefore, it would have been obvious for one skilled in the art to have been motivated to include a switch with a resistance that varies in accordance with pressure exerted as disclosed by Ohkawara in the camera system disclosed by Lee in view of Hamamura.

Doing so would provide a means for providing a switch that outputs a signal based on the pressure exerted on the switch (Ohkawara: col. 11, lines 1-12).

(10) Response to Argument

Appellant's arguments regarding claim 1 (Appeal Brief pages 9-12) state that the Lee reference does not discloses or suggest that the **frame rate can be selected during continuous image data capture**. The Examiner respectfully disagrees. Lee discloses in figures 2-6 a camera system capable of capturing video images at different frame rates. The camera system includes video capture selector (55) having a first operating state in which the camera captures image data at a first rate and a second operating state in which the camera captures image data at a second rate different from the first rate (col. 4, line 9 – col. 5, line 45). It can be seen in figure 2 (block 21) that a frame rate is commanded by a user and then continuous image capture operations are carried out (col. 3, lines 25-35). Next, gate signals are generated for each field of a succession of fields and applied to the image capture device **based on the commanded frame rate** to output image data at the commanded frame rate (Blocks 22 and 23) and image data is captured (Block 25and output when gate signals are again applied (based on the commanded frame rate) to the image capture device (block (23) (col. 3, lines 35-48). **Lee also states that a frame rate selection signal (SEL) is generated by a user-controlled external switch in order to command a selection of frame rates (col. 5, lines 36-45).** Since the frame rate selection signal (SEL) is

generated by **a user-controlled switch** and Lee does not disclose that the switch is disabled at any time, it is inherent that the user may actuate the external switch in order to command a new frame rate at any time. Therefore, it can be seen that the **gate signals which are generated for each field of a succession of fields** are applied to the image capture device based on a commanded frame rate (generated by a user-controlled external switch). Since the commanded frame rate is capable of being changed at any time by actuating an external user-controlled switch the gate signals may vary for each field according to the commanded frame rate. Thus, it can be seen that the Lee reference does suggest that the frame rate can be selected during continuous image data capture (the commanded frame rate is capable of being changed through the use of the user-controlled switch).

Appellant's arguments regarding claim 1 (Appeal Brief page 11) state that the Lee reference fails to indicate that the switch is necessarily actuatable during continuous image capture. The Examiner respectfully disagrees. It can be seen in figure 2 (block 21) that a frame rate is commanded by a user and then continuous image capture operations are carried out (col. 3, lines 25-35). Next, gate signals are generated for each field of a succession of fields and applied to the image capture device **based on the commanded frame rate** to output image data at the commanded frame rate (Blocks 22 and 23) and image data is captured (Block 25and output when gate signals are again applied (based on the commanded frame rate) to the image capture device (block (23) (col. 3, lines 35-48). **Lee also states that a frame rate**

selection signal (SEL) is generated by a user-controlled external switch in order to command a selection of frame rates (col. 5, lines 36-45). Since the frame rate selection signal (SEL) is generated by **a user-controlled switch** and Lee does not disclose that the switch is disabled at any time, it is inherent that the user may actuate the external switch in order to command a new frame rate at any time. Therefore, it can be seen that the **gate signals which are generated for each field of a succession of fields** are applied to the image capture device based on a commanded frame rate (generated by a user-controlled external switch). Since the commanded frame rate is capable of being changed at any time by actuating an external user-controlled switch the gate signals may vary for each field according to the commanded frame rate. Thus, it can be seen that the Lee reference does suggest that the frame rate can be selected during continuous image data capture (the commanded frame rate is capable of being changed through the use of the user-controlled switch). The fact that the Lee reference provides a user-controlled external switch for generating the frame rate selection signal (SEL) makes clear that the switch (for producing SEL signals) is necessarily actuatable during continuous image capture. Giving the a user of the camera full control over generating the gate signals clearly shows that the switch (for producing SEL signals) is necessarily actuatable.

Appellant's arguments regarding claim 1 (Appeal Brief page 12) state that there is nothing in the Lee reference to suggest that the discovered device is different than a conventional video camera including a predetermined frame rate which is set by the

user as a one time event. The Examiner respectfully disagrees. Lee states that in conventional systems data is typically read out from the image capture device at a fixed field rate, a buffer is typically used to stored fields of video data read from an image capture device so that they may be processed at variable frame rates (col. 1, lines 51-59). Lee then states that in light of the conventional systems it is an object of the present invention to provide an image capture apparatus and methods for operating an image capture device at varying frames rates and to provide an image capture apparatus and methods that capture image data a varying frame rates without requiring buffering as in the conventional art (col. 1, line 60-col. 2, line 11). Thus, it can be seen the Lee reference includes evidence that suggests that the disclosed device does not operate in the conventional manner of setting a predetermined frame rate as a one time event.

Appellant's arguments regarding claim 13 (Appeal Brief page 14) state that although the Lee reference discloses that the capture rate can be changed, Lee does not disclose that image sets captured at different frame rates can be streamed **together**. This argument is moot because the claims do not require that image sets captured at different frame rates can be streamed together. Claim 13 discloses " A method of creating and displaying video of an object comprising: ...streaming at least said first image data set, said second image data set, and streaming said third image data set and said fourth image data set". Therefore, it can be seen that the claims do not require that that image sets captured at different frame rates can be streamed

together. Lee discloses a digital camera processor (45) that processes the digital video signals at the selected frame and generates composite video for output (col. 4, lines 9-31). Therefore, Lee discloses streaming said first image data set, said second image data set, said third image data set, and said fourth image data set.

Appellant's arguments regarding claim 18 (Appeal Brief pages 16-17) challenge the Official Notice and request that a reference be provided to show that it is well known in the art to place user controlled switches on the exterior surface of a camera (1). Hamamura discloses in figures 1-2 an electronic camera (1). The camera (1) includes a continuous mode switch (13) that is used to set photography of either one frame or a plurality of frames continuously (col. 5, line 66 - col. 6, line 5). Hamamura states that when the indicator of continuous mode switch (13) is switched to the position printed with "L", and the release switch (10) is pressed, photography at a rate of eight frames per second is performed; and when the indicator of continuous mode switch (13) is switched to the position printed with "H", and the release switch (10) is pressed, photography at a rate of thirty frames per second is performed (col. 6, lines 6-15). Furthermore, it can be seen in figures 1-2 that the continuous mode switch (13) and the release switch (10) for controlling the frame rate are provided on the exterior surface of the camera (1). Therefore, it would have been obvious for one skilled in the art to have been motivated to place the user-controlled switch for varying frame rate as disclosed by Lee on the exterior surface of a camera as disclosed by Hamamura so that the switch may be easily accessed by a user of the camera.

Appellant's arguments regarding claim 19 (Appeal Brief page 18) state that claim 19 is allowable for the same reasons as claim 1 above. Therefore, the response to claim 1 above also applies to claim 19.

Appellant's arguments regarding claims 2-5 (Appeal Brief page 19) state that claims 2-5 either stand or fall with claim 1 above. Therefore, the response to claim 1 above also applies to claims 2-5.

Appellant's arguments regarding claims 21-22 (Appeal Brief page 19) state that claims 21 and 22 either stand or fall with claim 18 above. Therefore, the response to claim 18 above also applies to claims 21-22.

Appellant's arguments regarding claims 6-7 (Appeal Brief page 20) state that claims 6 and 7 either stand or fall with claim 1 above. Therefore, the response to claim 1 above also applies to claims 6-7.

Appellant's arguments regarding claims 14-15 (Appeal Brief pages 21-22) state that claims 14 and 15 are allowable for the same reasons as claim 1 above. Therefore, the response to claim 1 above also applies to claims 14-15.

Appellant's arguments regarding claim 16 (Appeal Brief page 23) state that claim 16 either stands or falls with claim 15 above. Therefore, the response to claim 15 above also applies to claim 16.

Appellant's arguments regarding claim 20 (Appeal Brief page 24) state that claim 20 either stands or falls with claim 18 above. Therefore, the response to claim 18 above also applies to claims 20.

For the above reasons, it is believed that the rejections should be sustained.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

Respectfully submitted,

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